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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,933	09/11/2006	Naoharu Nakaiso	1592-0168PUS1	7899

2292 7590 11/03/2008

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EXAMINER	
KACKAR, RAM N	

ART UNIT	PAPER NUMBER
1792	

NOTIFICATION DATE	DELIVERY MODE
11/03/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/549,933	NAKAISO, NAOHARU	
	Examiner	Art Unit	
	Ram N. Kackar	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,12,15,16 and 19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 12, 15-16 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/3/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/18/2008 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 12, 15-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noda et al (JP 2003-045811) in view of Yang (US 6641673) and further in view of Okuda et al (US 20030024477).

Noda et al disclose a vertical type processing apparatus and disclose nozzles with horizontal and vertical portions, a first nozzle not opposite to heater and second nozzles which comprise a plurality of nozzles having different lengths opposite to the heater (Fig 1).

Noda et al do not disclose flow path cross section area at the vertical section (at the exit side) to be greater.

Yang teaches that flared section at the exit of a gas outlet reduces unwanted deposition to clog the flow path (See Abstract, Figs 1, 3-7 Col 1line 52-63 and Col 2 lines 12-16). It is noted that it is consistent with common sense that narrow area nozzles will clog earlier.

Therefore having vertical sections having larger diameter and area will be better from the point of long hours of use before clogging.

Regarding the particular shape it is noted that having a radial dimension small may be compensated by having large dimension along the direction of the wall for the same area.

Okuda et al disclose cross section of nozzle which is narrower along radial direction and wider in the perpendicular direction (Figs. 1-3).

It would therefore be obvious for one of ordinary skill in the art to have a cross section of nozzle which is narrower along radial direction and wider in the perpendicular direction for larger area without increasing the overall diameter of the processing chamber.

4. Claims 1-4, 12, 15-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noda et al (JP 2003-045811) in view of Yoshino Akihito (JP 2000-068214) and further in view of Okuda et al (US 20030024477).

As discussed above Noda et al do not disclose flow path cross section area at the vertical section (at the exit side) to be greater.

Yoshino Akihito discloses a similar processing apparatus and discloses narrowing of inlet nozzles due to deposition. It would therefore make sense to have nozzles with larger area to increase the usable time between cleaning.

Therefore having vertical sections having larger diameter and area will be better from the point of long hours of use before clogging.

Regarding the particular shape it is noted that having a radial dimension small may be compensated by having large dimension along the direction of the wall for the same area.

Okuda et al disclose cross section of nozzle which is narrower along radial direction and wider in the perpendicular direction (Figs. 1-3).

It would therefore be obvious for one of ordinary skill in the art to have a cross section of nozzle which is narrower along radial direction and wider in the perpendicular direction for larger area without increasing the overall diameter of the processing chamber.

5. Claims 1-4, 12, 15-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (US 6383300) in view of Yang (US 6641673) and further in view of Okuda et al (US 20030024477).

Saito et al disclose a vertical type processing apparatus and disclose a first nozzle not opposite to heater and a second nozzle which comprises a plurality of nozzles having different lengths opposite to the heater (Fig 1).

Saito et al do not disclose flow path cross section area at the vertical section (at the exit side) to be greater and heater comprising plurality of zones.

Yang teaches that flared section at the exit reduces unwanted deposition to clog the flow path (See Abstract, Figs 1, 3-7 Col 1line 52-63 and Col 2 lines 12-16). It is noted that it is consistent with common sense that narrow area nozzles will clog earlier.

Therefore having vertical sections having larger diameter and area will be better from the point of long hours of use before clogging.

Regarding the particular shape it is noted that having a radial dimension small may be compensated by having large dimension along the direction of the wall for the same area.

Okuda et al disclose cross section of nozzle which is narrower along radial direction and wider in the perpendicular direction (Figs. 1-3) and discloses heater comprising plurality of zones for better temperature distribution.

It would therefore be obvious for one of ordinary skill in the art to have a cross section of nozzle which is narrower along radial direction and wider in the perpendicular direction for larger area without increasing the overall diameter of the processing chamber.

Response to Arguments

Applicant's arguments filed 6/18/2008 have been fully considered but they are not persuasive and moot in view of the present grounds of rejection. Regarding Noda the disclosure of the abstract is enough. However official translation will be provided if needed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N. Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571 272 1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ram N Kackar/
Primary Examiner, Art Unit 1792